EXAMINING THE ROLE OF TRUST IN SHAPING CUSTOMER SATISFACTION OF MOBILE BANKING

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ABSTRACT

Mobile banking is the latest technology offered by service providers that allows customers to conduct banking transactions via mobile terminals. Mobile banking like other online transactions involve great uncertainty and risk, thus, customers need to build trust to alleviate perceived risk and facilitate their transactions. Owing to its significant role, trust has received considerable attention in information systems (IS) research, especially in the e-commerce context. However, little research has been done on the success of this technology, especially when investigating customer satisfaction. In this study, some modifications to the DeLone and McLean Model (2003) of IS Success are proposed whereby the model may be applicable to post adoption customer satisfaction. The target population is the users of mobile banking in Somaliland where mobile banking is at peak prevalence. Quantitative research method is deemed to be the suitable way of study. Partial Least Square (PLS) is the research instrument used to examine the role of trust in mediating the effects of independent variables on customer satisfaction. The findings suggest that quality factors and structural assurance have significant direct effect on both trust and customer satisfaction. Meanwhile, company reputation positively affects trust but not customer satisfaction. Trust is also shown to fully mediate the interrelationships of information quality, system quality and company reputation on customer satisfaction. Theoretical contributions of the findings are discussed and suggestions for future research are presented.

ABSTRAK

Perbankan mudah alih adalah teknologi terkini yang ditawarkan oleh penyedia perkhidmatan bagi membolehkan pelanggan untuk menjalankan transaksi perbankan melalui terminal mudah alih. Perbankan mudah alih turut mempunyai ketidakpastian dan risiko seperti urus niaga dalam talian yang lain, oleh itu pelanggan perlu membina kepercayaan bagi mengurangkan risiko yang dapat dilihat dan memudahkan tranksaksi mereka. Disebabkan peranannya, kepercayaan telah mendapat perhatian yang besar dalam penyelidikan sistem maklumat (IS), terutamanya dalam konteks e-dagang. Namun demikian, tidak banyak penyelidikan yang dilakukan terutamanya dalam mengkaji kepuasan pelanggan. Berdasarkan Model DeLone dan McLean IS, kajian ini mengkaji kesan faktor kualiti (i.e. kualiti maklumat, kualiti sistem dan kualiti perkhidmatan), reputasi syarikat dan jaminan struktur ke atas kepuasan pelanggan yang mana kepercayaan merupakan sebagai pengantera utama. Populasi kajian adalah tertumpu kepada pengguna perbankan mudah alih di Somaliland di mana perbankan mudah alih sedang rancak digunakan. Kaedah penyelidikan secara kuantitatif adalah dianggap sebagai cara yang sesuai bagi kajian ini. Partial Least Square (PLS) ialah instrumen kajian digunakan untuk mengkaji peranan kepercayaan dalam pengantaraan kesan pembolehubah kajian terhadap kepuasan pelanggan. Hasil kajian mencadangkan bahawa faktor-faktor kualiti dan jaminan struktur mempunyai kesan langsung terhadap kepercayaan dan kepuasan pelanggan. Dalam masa yang sama, reputasi syarikat secara positifnya mempengaruhi kepercayaan pelanggan berbanding kepuasan pelanggan. Kepercayaan juga mampu menjadi pengantara sepenuhnya terhadap hubungan antara kualiti maklumat, sistem kualiti dan reputasi syarikat pada kepuasan pelanggan. Sumbangan teori penemuan dibincangkan dan cadangan untuk kajian akan datang juga dibentangkan.

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LIST OF SYMBOLS AND ABBREVIATIONS

ATM	-	Automated Teller Machine
AVE	-	Average variance extracted
CA	-	Cronbach's Alpha
CEO	-	Chief Executive Officer
CR	-	Company Reputation
CS	-	Customer Satisfaction
d	-	Degree of Accuracy
df	-	Degree of freedom
E-Money	-	Electronic Money
ELM	-	Elaboration Likelihood Model
Findex	-	Financial Inclusion Database
GDP	-	Gross Domestic Product
GSM	-	Global System for Mobile Communications
GSMA	-	*Groupe Speciale* Mobile Association
H	-	Hypothesis
ICT	-	Information and Communication Technology
IDT	-	Innovation Diffusion Theory
IQ	-	Information Quality
IS	-	Information Systems
IT	-	Information Technology
KMO	-	Kaiser-Meyer-Olkin
M	-	Mean
MAX	-	Maximum
MIN	-	Minimum
MMU	-	Mobile Money for Unbanked
MNO	-	Mobile Network Operator

M-PESA	-	M for mobile, Pesa is Swahili for money
N	-	Population size
P	-	Population proportion
PBC	-	Perceived behavioral control
PDA	-	Personal Digital Assistants
PEOU	-	Perceived Ease of Use
PLS	-	Partial Least Square
PU	-	Perceived Usefulness
S	-	Sample size
SA	-	Structural Assurance
SD	-	Standard deviations
SEM	-	Structural Equation Modeling
ServQ	-	Service Quality
SPSS	-	Statistical Package for Social Science
SRO	-	Somali Remittance Organizations
SysQ	-	System Quality
T	-	Trust
TAM	-	Technology Acceptance Model
Telesom	-	Telecommunications Somaliland
TRA	-	Theory of reasoned action
US	-	United States
UTAUT	-	Unified Theory of Acceptance and Use of Technology
VIF	-	Variance Inflation Factor
WAP	-	Wireless Application Protocol

LIST OF PUBLICATIONS

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CHAPTER 1

INTRODUCTION

1.1 Research Background

Mobile banking is among the latest in a series of recent mobile technological wonders. Although automated teller machine (ATM) and Internet banking offer effective delivery channels for traditional banking products, but as the modern delivery channel established by retail and banks in many developed and developing countries, mobile banking is likely to have significant effects on the market (Safeena et al., 2012). In particular, the expanded uses of smartphones has increased demand for mobile banking services, prompting many more banks, software houses and service providers to offer this innovative service. It comes with new sets of products and applications designed to extend their client reach (including to unbanked populations), improve customer retention, enhance operational efficiency, increase market share, and provide new employment opportunities (Shaikh, 2013).

Despite such benefits, the use of mobile phones or tablets to conduct banking transactions or access financial information is not as widespread as might be expected (e.g., Dineshwar and Steven, 2013; Shih et al., 2010). Juniper Research (2013) has revealed that more than 1 billion people are expected to use mobile banking globally by 2017, but that level represents only 15% of the global mobile subscription base—a base that accounts for approximately 96% of the world's population (International Telecommunication Union, 2011). In addition, approximately half of all mobile subscribers remain unbanked, with limited access to traditional financial services. Porteous (2006) distinguishes ''additive'' mobile banking models from the transformational models, and defines transformational mobile banking services as "those in which the financial product linked to the use of the phone is targeted at the unbanked, who are largely low income people". Transformational mobile banking services have increasingly been regarded as the tool for bringing financial services to the largely unbanked population of developing countries, the hope being that by having access to financial services, the life of the people will be completely transformed.

Interestingly, apart from continued violence and instability, there has been a fascinating experiment underway in mobile banking in Africa, and especially in the Somali territories (Sayid et al., 2012). Many countries in the region face crumbling infrastructure and weak government, yet even in the absence of strong legal and regulatory frameworks, Information and Communications Technology (ICT) companies, including mobile phone and Internet companies, are investing and innovating in unprecedented ways. Some of the most new platforms to emerge have facilitated the use of mobile banking, a system that allows users to transfer money to accounts, pay for goods and services, and store money in e-wallets, all through the mobile phone (Stremlau and Osman, 2015).

Eastern Africa is leading the world in the use and penetration of mobile banking. In Kenya, where mobile money originated with Safaricom's M-PESA, an estimated 70 per cent of adults use their mobiles for payments; neighboring Uganda and Somalia are close behind (Penicaud and McGrath, 2013). While much has been written about M-PESA in Kenya (Hughes and Lonie, 2007; Morawczynski, 2009), far less attention has

been given to the Somali territories where the world's most ambitious experiment in mobile money is taking place, filling a gap in the banking sector and reducing a reliance on cash. This growth is driven by telecoms companies, some of the territories' most powerful and wealthy businesses, and it is closely intertwined with the profitable remittance sector that is estimated to account for up to 40 per cent of Somalia's GDP (Stremlau and Osman, 2015).

The focus in this study is on Somaliland, the self-declared independent region of northwestern Somalia, which is a fascinating case not only for mobile banking but also for its unique process of state-building. Recently, the World Bank's Global Financial Inclusion Database (Findex) revealed that Somalia was one of the most active mobile money markets. The number of population in Somalia reported using mobiles to pay bills, send and receive money is among the highest rates in the world. Most of the mobile activity has been driven by Zaad service offered by Telesom which is based in Somaliland. Their broader vision was to bring financial services to Somaliland's population, while on a strategic level the service was initially designed as a customer retention tool (Penicaud & McGrath, 2013).

Despite failed efforts to gain international recognition, Somaliland has adeptly crafted a relatively peaceful and democratic society (Harper, 2012). After declaring independence from the war-torn south-central regions of Somalia in 1991, Somaliland has held competitive elections several times, even electing an opposition party over an incumbent by a small margin and subsequently effecting a peaceful transfer of power. Somaliland has established its own government institutions that issue passports and currency (the Somaliland Shilling) and provide some services such as education and policing. In spite of these successes, Somaliland's lack of international recognition imposes significant limitations, particularly when it comes to participation in the global economy. Without easy access to international banking, large lenders, or the ability to integrate with international financial institutions, the government and the people of Somaliland have been further marginalized. The adoption of mobile money in Somaliland has helped to mediate this isolation (Stremlau and Osman, 2015).

1.2 Research Problem

For customers, mobile banking offers a secure and convenient alternative to cash. By giving consumers secure and immediate access to all their funds on demand, Telesom in Somaliland has significantly improved the ability of customers to make better buying decisions by launching Zaad (Stremlau and Osman, 2015). Moreover, for central banks digitizing transactions brings greater transparency, reduced production costs and better visibility into the economic environment (Shaikh, 2013). However, mobile banking like other online transactions involves great uncertainty and risk due to the virtuality, anonymity and temporal and spatial separation. Thus, customers need to build trust to alleviate perceived risk and facilitate their transactions. Owing to its significant role, trust has received considerable attention in information systems research, especially in the e-commerce context (Varnali and Toker, 2010).

As noted earlier, mobile banking industry in Somaliland is relatively in its infancy, yet growing almost at an exponential rate (Mohseni-Cheraglou, 2013). Similar to other innovation diffusion contexts, mobile banking adoption can be also be studied at two levels: initial mobile banking adoption and post mobile banking adoption (Kang et al., 2012). Contrary to the initial adoption of mobile banking which is well-studied, the existing knowledge of the satisfaction of the current customers and in turn their retention is limited. This important existing evidence within the literature suggests that similar to other service industries, lack of understanding on determinants of customer satisfaction can be costly to service providers which have made considerable amount of investments to provide mobile banking services and technological support (Shaikh, 2013). In Somaliland context, the problem lies that only 40% of Telesom subscribers are Zaad service users. In order to retain its customers, Telesom faces a daunting task to attract all to Zaad service in the face of emerging competing telecommunication companies.

Typically, trust exerts great influence on customer satisfaction in e-commerce services. Balasubramanian et al., (2003) found that perceived trustworthiness of an online broker is directly related to online investor's satisfaction. Yoon (2002) posited that satisfaction is an outcome of trust and pointed out that trust correlates positively with end user satisfaction. In addition, scholars have regarded trust as the central construct in

customer loyalty and repurchase intentions (Sirdeshmukh et al., 2002). Moreover, under relationship marketing theory, trust is identified as a key mediator that influences company actions on customer behaviours (Morgan and Hunt, 1994). The above line of reasoning leads to the belief that trust is most likely to play a mediating role for customer satisfaction in mobile banking. Therefore

The role of trust in mobile banking has been investigated by a few number of research articles (Shaikh and Karjaluoto, 2015) of which fewer still were dedicated to role of trust in customer satisfaction of mobile banking. Despite the limited understanding of determinants of customer satisfaction in mobile banking context, the existing literature on corresponding research contexts (e.g. internet banking) revealed that instead of perceptual-cognitive factors which are important to initial adoption, the technical characteristics of the e-service in addition to peripheral cues such as company reputation and structural assurance are key determinants of post adoption behaviour (satisfaction) of existing customers (Chiu et al., 2012). The elaboration likelihood model (ELM) proposes that users change their attitude via a dual route including central route and peripheral route. Information quality, system quality and service quality act as central cues, whereas company reputation and structural assurance act as peripheral cues (Zhou, 2012).

Central cues in this study are the quality factors enlisted in DeLone and McLean's Information Systems Success Model (1992, 2003). Through this model, the causal relationships between quality factors, trust and customers' satisfaction in mobile banking can be grasped. In summary, if the quality of the service is up to the desired standard, customer tend to trust the service provider and their level of satisfaction will be increased (Koo and Wati, 2010). In comparison, peripheral cues include company reputation and structural assurance. Regardless of the privacy and security concerns, one factors that users of mobile banking noted to be crucial for initial adoption is the company's reputation (Beldad et al., 2010). Customers trusted Telesom with their money because they knew the company from their previous dealings. However, given the lack regulatory guarantees in Somaliland, there are significant concerns about the security of the funds. Users show far less trust in the mobile banking in the event of absence of strong formal dispute resolution procedures (Stremlau and Osman, 2015). Here is where the second component of

peripheral cue, structural assurance, comes into play. Structural assurance of the security of the money kept in Zaad can be in the form of company management, government police and courts and traditional elders. In any case, structural assurance plays an active role in resolving conflicts that result from Zaad transactions.

Hence, the principal goal of this study is threefold: First, it investigates the role by trust in shaping the customer satisfaction of mobile banking. Meanwhile, it contributes to the body of literature by using an elaboration likelihood perspective to explain the key determinants of customer satisfaction in mobile banking via central and peripheral routes. Second, the study attempts to validate the significant role of quality factors on trust and customer satisfaction (Lee and Chung, 2009). Third, this research critically examines the effect company reputation and structural assurance on trust and customer satisfaction in mobile banking in a developing country where formal dispute resolution procedures do not exist.

1.3 Research Questions

i. Does the quality factors (information, system and service qualities) affect trust among mobile banking customers?
ii. Does company reputation affect trust among mobile banking customers?
iii. Does structural assurance affect trust among mobile banking customers?
iv. Does trust mediate the effect of quality factors and customer satisfaction?
v. Does trust mediate the relationship between company reputation and customer satisfaction?
vi. Does trust mediate the relationship between structural assurance and customer satisfaction?

1.4 Research Objectives

i. To identify the direct effect of quality factors on trust among mobile banking customers.
ii. To identify the direct effect of company reputation on trust among mobile banking customers.
iii. To identify the direct effect of structural assurance on trust among mobile banking customers.
iv. To examine the mediating role of trust in the relationship between quality factors and customers satisfaction in mobile banking.
v. To examine the mediating role of trust on relationships between company reputation and customers satisfaction in mobile banking.
vi. To investigate the mediating role of trust on relationships between structural assurance and customers' satisfaction in mobile banking.

1.5 Scope of the Research

This study uses elaboration likelihood model (ELM) to investigate the key determinants of customer satisfaction in mobile banking. Furthermore, the research attempts to examine the mediating role of trust between the interrelationships of quality factors, company reputation and structural assurance with customer satisfaction in mobile banking. The target populations are the active customers of Zaad service in Somaliland provided by Telesom Company.

1.6 Significance of the Research

The results of this study helps Telesom in Somaliland to recognize the status of its customers' satisfaction in Zaad. Also, it also assists Telesom to identify the level of the quality (as indicated by information, service and system qualities) of Zaad service. As

a consequence, Telesom and other similar companies can use the research to attract new users. Overall, the study helps to enhance the understanding of the factors determining customer satisfaction in mobile banking, thereby assisting the marketing department of service providers to target customers who didn't adopt mobile banking yet.

CHAPTER 2

LITERATURE REVIEW

2.1 Overview of Mobile Banking

Mobile banking is when users adopt mobile terminals to access various payment services, such as account balance enquiry, transference, bill payment and financial management (Shaikh, 2013). Mobile networks have freed users from temporal and spatial constraints, and enabled them to use mobile banking services at anytime from anywhere. This provides great convenience to users. Certainly, mobile banking technology has the potential to improve people's quality of life and bring efficiency to banks and financial service providers (Malaquias and Hwang, 2016). However, mobile banking also involves great uncertainty and risk. For example, mobile networks are vulnerable to hacker attack and information interception. Viruses and Trojan horses may also exist in mobile terminals. These problems increase users' concern about payment security and decrease their trust in mobile banking, which may further affect their usage intention and behavior (Zhou, 2012).

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